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MINUTES OF PROCEEDINGS

OF

THE INSTITUTION

OF

CIVIL ENGINEERS.

SUBJECT INDEX:

VOLUMES LIX. TO CXVIII.

SESSIONS 1879–80 TO 1893–94.

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PREFACE.

THIS Index deals with the sixty octavo volumes of Minutes of Proceedings relating to the fifteen sessions from 1879–80 to 1893–94, both inclusive. It has been compiled on the same system as the preceding Index issued in 1881, to which it may be regarded as a continuation, and hence the general remarks then made will equally apply now. Thus, being a purely Subject-matter Index, the names of the Authors of Papers and of those taking part in the discussions, either orally or in writing, have been treated as subordinate. It is essentially analytical, and the alphabetical arrangement has been combined with a certain amount of classification, thereby affording facility for consultation, by which it is hoped any given subject of inquiry may be reached with the least expenditure of time and trouble. General references and historical notices are first disposed of, and then particular branches of the subject are taken up. Each large subject is sub-divided under leading headings, in each of which the main subject is repeated. In this way extensive sub-division has been practised where needful, whilst the main subject is, by repetition, kept steadily before the eye. It will be seen that, during the period covered by this Index, attention has been directed to: 1st. the primary object for which the Institution was founded, "the Advancement of Mechanical Science," in its many branches and developments, including "the art of navigation by artificial power" and "the construction and adaptation of machinery;" 2dly. Works of Civil Construction and of the materials and

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plant employed in their execution, such as Aqueducts, Breakwaters, Bridges, Canals, Docks, Harbours, Lighthouses, Railways and Tramways, Tunnels, Rivers and Estuaries; 3rdly. Mining Operations and Appliances, the Extraction of Metals from their Ores, and especially the Metallurgy of Iron and Steel; 4thly. Rainfall and Evaporation as affecting the Supply of Water to Cities and Towns, with details of the construction of Waterworks and Reservoir Dams; likewise of "the Drainage of Cities and Towns" embracing considerations as to Sewerage and Sewage-Disposal Works; and 5thly. the various Applications of Electricity for Lighting, Power and other purposes. Where it appeared necessary, the entries have been repeated under different headings, but where there were numerous references which might have been placed under the same heading, the use of cross-references has been freely adopted, so as to comprehend as far as possible every matter of engineering interest that has arisen either in the Papers or in the discussions.

The Institution of Civil Engineers,
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MINUTES OF PROCEEDINGS

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